MEDIA RELEASE

ARENA
Australian Government
Australian Renewable Energy Agency

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Pumped hydro plant could unlock New England Renewable Energy Zone

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced it is providing $951,000 to Oven Mountain Pumped Storage Pty Ltd (OMPS) to undertake a study analysing the benefits that Pumped Hydro Energy Storage (PHES) would have on the development of the New England Renewable Energy Zone (REZ) in northern NSW.

OMPS will investigate how their proposed Oven Mountain 600 MW / 7,200 MWh PHES facility between Armidale and Kempsey can provide system-wide benefits, by storing and enabling variable renewable energy generation, improving system strength, unlocking network constraints and helping to reduce marginal loss factors.

The study will examine the degree to which the proposed PHES plant could unlock further renewable energy investment and the development of the proposed New England REZ.

A REZ is a region that has characteristics that could make a substantial contribution to increasing the supply of renewable energy such as having excellent wind and sun conditions.

Alinta Energy has partnered with OMPS in the $2.2 million study which is being undertaken with the assistance of consultants Lloyd's Register, EY and SMEC, along with the involvement of Australian Energy Market Operator and TransGrid. The study will also inform the development of the Oven Mountain PHES project, which is supported by the NSW Government's Emerging Energy Program.

The proposed Oven Mountain site is an ideal location for PHES due to its steep topography, high hydrological head and the short distance between two reservoirs. If built, the proposed PHES plant could provide system strength to the wind and solar farms in the New England area, provide rapid grid power response and meet requirements during peak demand.

AEMO's draft 2020 Integrated System Plan forecasts Australia's generation to be dominated by large-scale solar PV and wind by 2040, which requires new flexible and dispatchable technologies to ensure Australians have access to reliable electricity when and where it is needed. PHES can help to play a vital part with large amounts of storage capacity.

ARENA CEO Darren Miller said this study will help to provide vital knowledge on the positive impacts pumped hydro can provide in the development of REZs.

"Pumped hydro projects like Oven Mountain can play a key role in the provision of firming up and balancing the grid as increased levels of variable renewable energy generation such as wind and solar come online.

"Renewable Energy Zones like New England are sunny and windy areas with natural renewable energy resources, but they may be in weak areas of the grid. Pumped hydro can provide system security services like frequency and voltage support and it can provide bulk energy storage to help meet the evening peak," he said.

OMPS Director Dr Jeremy Moon said the New England REZ "sits close to the border of NSW and Queensland, and its abundance of renewable resources places it strategically between the two states."

"Pumped hydro technology evolution can support Australia's generation transition. With its natural high hydrological head over a distance of around two kilometres, the Oven Mountain site allows for highly responsive synchronous machines to provide grid stability services that have traditionally been provided by fossil fuel generation."

"We are excited for the opportunity to work with ARENA to demonstrate how pumped hydro can provide large scale storage and support the New England Renewable Energy Zone, networks, system security and increasing levels of low cost, dispatchable power," he said.

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Alinta Energy Executive Director of Merchant Energy Ken Woolley said “what we really like about this project is its potential to pair with low cost renewables and help us deliver more affordable and reliable energy for our customers.”

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